

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:

Castillo et al.

Examiner:

Duffy, P.

Serial No.:

09/938,275

Group Art Unit:

1645

Filing Date:

08/22/2001

Attorney Docket No.:

PROTEO.P03

Title of Invention:

Therapeutic Applications of Laminin and Laminin-Derived Protein

Fragments

INFORMATION DISCLOSURE CITATION

OTHER REFERENCES

Ex.	Ex. Doc # Description (Author, Title, Date, Pertinent Pages, Etc.)		
	A	KOO et al. "Amyloid β-Protein as a Substrate Interacts with Extracellular Matrix to Promote Neurite Outgrowth," Proc. Natl. Acad. Science, Vol. 90, pp. 4748-4752, May 1993.	
	В	NARINDRASORSAK et al. "Characterization of High Affinity Binding between Laminin and Alzheimer's Disease Amyloid Precursor Proteins," Laboratory Investigation, Vol. 67, No. 5, pp. 643-652, 1992.	
	С	NARINDRASORSAK et al. "An Interaction between Basement Membrane and Alzheimer Amyloid Precursor Proteins Suggests a Role in the Pathogenesis of Alzheimer's Disease," Laboratory Investigation, Vol. 72, No. 3, pp. 272-282, 1995.	
00	D	MANN. "Cerebral Amyloidosis, Ageing and Alzheimer's Disease; A Contribution From Studies on Down's Syndrome," Neurobiology of Aging, Vol. 10, pp. 397-399, 1989.	
	Е	GAJDUSEK. "Unconventional viruses and the Origen and Disappearance of Kuru," Science, Vol. 197, No 4307, Sept. 2 1977.	
	F	PRUSINER et al. "Purification and Structural Studies of a Major Scrapie Prion Protein," Cell, Vol. 38, 127-134, Aug. 1984.	
	G	PRUSINER. "Prions," [publication data unknown].	
	Н	TATEISHI et al. "Gerstmann-Straussler-Scheinker Disease: Immunohistological and Experimental Studies," Annals of Nuerology, Vol. 24, No. 1, July 1988.	
	I	FOIDART et al. "Distribution and Immunoelectron Microscopic Localization of Laminin, A Non collagenous Basement Membrane Glycoprotein," Laboratory Investigation, Vol. 42, No. 3, p. 336, 1980.	

CERTIFICATE OF MAILING (37 CFR 1.8A)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D. C. 20231.

Patrick Dwyer

Ex.	Doc #	Description (Author, Title, Date, Pertinent Pages, Etc.)
	J	BURGESON et al. "A New Nomenclature for the Laminins," Matrix Biology, Vol. 14, pp. 209-211, 1994.
	K	YURCHENCO et al. "Laminin Polymerization in Vitro: Evidence for a two step assembly with Domain Specificity," The Journal of Biological Chemistry, Vol. 260, No. 12, pp. 7636-7644, June 25, 1985.
	L	YURCHENCO et al. "Laminin Forms an Independent Network in Basement Membranes," The journal of Cell Biology, Vol. 117, No. 5, pp. 1119-1133, June 1993.
	М	NEWGREEN et al. "Fibronectin in Early Avian Embryos: Synthesis and Distribution Along the Migration Pathways of Neural Crest Cells," Cell tissue res. Vol. 211, pp. 211-269, 1980.
	N	ROVASIO et al. "Neural Crest Cell Migration: Requirements for Exogenous Fibronectin and High Cell Density," The Journal of Cell Biology, Vol. 96, pp. 462-473, Feb. 1983.
	О	LANDER et al. "Laminin is associated with the 'nuerite outgrowth-promotion factors' found in conditioned media," Proc. Natl. Acad. Sci. USA, Vol. 82, pp. 2183-2187, April 1985.
oc.	P	FRASER et al. "A monoclonal antibody against a laminin-heparan sulfate proteoglycan complex perturbs cranial neural crest migration in vivo," The Journal of Cell Biology, Vol. 106, pp. 1321-1329, April 1988.
	Q	KLEINMAN et al. "Formation of a Supramolecular Complex Is Involved the Reconstitution of Basement Membrane Composets," Biochemistry, Vol. 22, pp. 4969-4974, 1983.
	R	ENGVALL et al. "Mapping of Domains in Human Laminin Using Monoclonal Antibodies: Localization of the Neurite-promotion Site," The Journal of Cell Biology, Vol. 103, No. 6, Pt. 1, pp. 2457-2465, 1986.
	S	LIESI et al. "Laminin is induced in astrocytes of adult brain by injury," The EMBO Journal, Vol. 3, No. 3, pp. 683-686, 1984.
	Т	TERRANOVA et al. "Role of laminin in the attachment of PAM 212 (epithelial) Cells to Basement Membrane Collagen," Cell, Vol. 22, pp. 719-726, Dec. 1980.
	U	RAO et al. "Binding domain for laminin of type IV collagen," Biochemical and biophysical research communications, Vol. 128, no. 1, April 16 1985.
	V	CHARONIS et al. "Binding of laminin to type IV collagen: A morphological study," The Journal of Cell Biology, Vol. 100, pp. 1848-1853, 1985.
	W	LAURIE et al. "Localization of Binding Sites for Laminin, Heparan Sulfate Proteoglycan and Fibronectin on Basement Membrane (Tyoe IV) Collagen," J. Mol. Biol., Vol. 189, pp. 205-216, 1986.
	X	RIOPELLE et al. "Functional interactions of neuronal heparan sulphate preoteoglycans with laminin, Brain Research, Vol. 525, pp. 92-100, 1990.
	Y	BATTAGLIA et al. "Basement-membrane heparan sulfate proteoglycan binds to laminin by its heparan sulfate chains and to nidogen by sites in the protein core," Eur. J. Biochem., Vol. 208, pp. 359-366, 1992.
	Z	SAKASHITA et al. "Basement membrane glycoprotein laminin binds to heparin, "FEBS letters, Vol. 116, No. 2, July 1980.

Ex.	Doc #	Description (Author, Title, Date, Pertinent Pages, Etc.)
2	AA	DEL ROSSO et al. "Binding of the basement-membrane glycoprotein laminin to glycosaminoglycans," Biochem. J., Vol. 199, pp. 699-704, 1981.
	BB	SKUBITZ et al. "Localization of three distinct heparin-hinding Domains of Laminin by Monoclonal antibodies," The Journal of biological chemistry, Vol. 263, No. 10, pp. 4861-4868, April 5 1988.
	СС	HALL et al. "The α_1/β_1 and α_6/β_1 integrin heterodimers mediate cell attachment to distinct sites on laminin," The Journal of Cell Biology, Vol. 110, pp. 2175-2184, June 1990.
	DD	GOODMAN et al. "Multiple cell surface receptors for the short arms of laminin: $\alpha 1/\beta 1$ integrin and RGD-dependent proteins mediate cell attachment only to domains III in Murine Tumor Laminin," The Journal of Cell Biology, Vol. 113, No. 4, pp. 931-941, May 1991.
	EE	YURCHENCO et al. "Heparin modulation of laminin polymerization," The Journal of Biological chemistry, Vol. 265, No. 7, pp. 3981-3991, March 5 1990.
	FF	FOX et al. "Recombinant nidogen consists of three globular domains and mediates binding of laminin to collagen type IV," The EMBO Journal, Vol. 10, No. 11, pp. 3137-3146, 1991.
	GG	SUNG et al. "Cell and Heparin Binding in the Distal Long Arm of Laminin: Identification of Active and Cryptic Sites with Recombinant and Hybrid Glycoprotein," The Journal of Cell Biology, Vol. 123, No. 5, pp. 1255-1268, Dec. 1993.
OC 1	НН	SHIMOMURA et al. "Studies on Macromolecular Components of human glomerular basement membrane and alterations in diabetes," Diabetes. Vol. 36, March 1987.
	П	LYON et al. "Co-deposition of basement membrane components during the induction of murine splenic AA amyloid," Laboratory investigation, Vol. 64, No. 6, p. 785, 1991.
	JJ	PERLMUTTER et al. "Microangiopathy, the Vascular Basement Membrane and Alzheimer's Disease: A Review," Brain Research Bulletin, Vol. 24, pp. 677-686, 1990.
	KK	MURTOMAKI et al. "Laminin and its neurite outgrowth-promotin domain in the brain in alzheimer's disease and down's syndrome patients, " Journal of Neuroscience Research, Vol. 32, pp. 261-273, 1992.
	LL	PERLIMUTTER et al. "Vascular basement membrane components and the lesions of Alzheimer's Disease: light and electron microscopic analyses," Microscopy research and technique, Vol. 28, pp. 204-215, 1994.
	MM	NARINDRASORASAK et al. "Characterization of high affinity binding between lanimim and Alzheimer's Disease amyloid precursor proteins," Laboratory investigation, Vol. 67, No. 5, p. 643, 1992.
	NN	NAIKI et al. "Kinetic analysis of amyloid fibril polymerization in vitro," Laboratory investigation, Vol. 65, No.1, p.104, 1991.
	00	LEVINE et al. "Thioflavine T interaction with synthetic Alzheimer's Disease β-amyloid peptides: detection of amyloid aggregation in solution," Protein Science, Vol. 2, pp. 404-410, 1993.

Ex.	Doc#	Description (Author, Title, Date, Pertinent Pages, Etc.)
	PP	MAIKI et al. "First-order kinetic model of Alzheimer's β-amyloid fibril extension in vitro," Laboratory investigation, Vol. 74, No. 2, p. 374, 1996.
	QQ	WESTERMARK et al. "Islet amyloid in type 2 human diabetes mellitus and adult diabitic ats cantains a novel putative polypeptide hormone," American Journal of Pathology, Vol. 127, No. 3, June 1987.
	RR	COOPER et al. "Purification and characterization of a peptide from amyloid-rich pancreases of type 2 diabitic patients, " Proc. Natl. Acad. Sci. USA, Vol. 84, pp. 8628-8632, Dec 1987.
	SS	LEVINE. "Thioflavine T interaction with amyloid β -sheet structures," int. j. exp. clin. invest. Vol. 2, pp. 1-6, 1995.
	TT	LAEMMLI. "Cleavage of structural proteins during the assembly of the head of bacteriophage T4," Nature, Vol. 227, Aug. 15 1970
	UU	SCHAGGER et al. "Tricine-sodium dodecyl sulfate-polyacrylamide gel electrophoresis for the separation of proteins i8ng the range from 1 to 100kDa," analytical biochemistry, Vol. 166, pp. 368-379, 1987.
	VV	SASAKI et al. "The laminin B2 chain has a multidomain structure homologous to the B1 chain," The journal of biological chemistry, vol. 262, No. 35, pp. 17111-17117, Dec. 15 1987.
Sc.	ww	SASAKI et al. "Sequence of the cDNA encoding the laminin B1 chain reveals a multidomain protein containing cysteine-rich repeats," Proc. natl. Acad. Sci. USA, Vol. 84, pp. 935-939, Feb. 1987.
	XX	DURKIN et al. "Primary structure of the mouse laminin B2 chain and Comparison with Laminin B1," Biochemistry, Vol. 27, pp. 5198-5204, 1988.
	YY	SASAKI et al. "Laminin, a multidomain protein," The journal of Biological Chemistry, Vol. 263, No. 32, pp. 16536-16544, Nov 15 1988.
	ZZ	COLOGNATO et al. "Mapping of Network-forming, heparin-hinding, and $\alpha 1\beta 1$ integrin-recognition sites within the α -chain short arm of Laminin-1," The journal of biological chemistry, Vol. 270, No. 16, pp. 9398-9406, April 21 1995.
	AAA	MANDYBUR et al. "Cerebral amyloid angiopathy: the vascular pathology and complications," Journal of Neuropathology and Experimental neurology, Vol. 45, No. 1, pp. 79-90, Jan 1986.
	BBB	PARDRIDGE et al. "Amyloid angiopathy of Alzheimer's Disease: amino acid composition and partial sequence of a 4,200-dalton peptid isolated from cortical microvessels," Journal of Neurochemistry, vol. 49, No. 5, 1987.
	CCC	PIKE et al. "In vitro aging of β-amyloid protein causes peptide aggregation and neurotoxicity," Brain research, Vol. 563, pp. 311-314, 1991.
	DDD	PIKE et al. "Structure-activity analyses of β -amyloid peptides: contributions of the β 25-35 region to aggregation and neurotoxicity," Journal of neurochemistry, vol. 64, no.1, 1995.
	EEE	HARRIGAN et al. "Beta amyloid is neurotixic in hippocampal slice cultures," Neurobiology of aging, Vol. 16, No. 5, pp. 779-789, 1995.
	FFF	GAMES et al. "Alzheimer-type neuropatholofy in transgenic mice overexpressing V717F β-amyloid precursor protein, " Nature, Vol. 373, Feb. 9 1995.

T T	D "	OTHER REFERENCES (COIL.)
Ex.	Doc #	Description (Author, Title, Date, Pertinent Pages, Etc.)
	GGG	HSIAO et al. "Age related CNS disorder and early death in transgenc FVB/N mice overexpressing Alzheimer amyloid precursor proteins," Neuron, Vol. 15, pp. 1203-1218, Nov. 1995.
	ННН	FLOOD et al. "An amyloid β-protein fragment, Aβ[12-28], equipotently impairs post-training memory processing when inficted into different limbic system structures," Brain research, Vol. 663, pp. 271-276, 1994.
	Ш	FLOOD et al. "Amnestic effects in mice of four synthetic peptides homologous to amyoid β -protein from patients with Alzheimer's Disease," proc. natl. acad. sci. USA, vol. 88, pp. 3363-3366, April 1991.
	JJJ	PUCHTLER et al. "On the Binding of Congo Red by Amyloid," [publication data unknown].
	KKK	HARADA et al. "Human amyloid protein: chemical variability and homogeneity," The Journal of histochemistry and cytochemistry, Vol. 19, No. 1, 1971.
	LLL	METAXAS. "Familial mediterranean fever and amyloidosis, " Kidney International, Vol. 20, pp. 676-685, 1981.
	MMM	SKINNER et al. "The prealbumin nature of the amloid protein in familial amyloid polyneuropathy (Fap) swedish variety," Biochimical and Biophysical Research Communications, vol. 99, No. 4, pp. 1326-1332, 1981.
	NNN	SARAIVA et al. "Amyloid Fibril Protein in Familial Amyloidotic Polyneuropathy, Portuguese Type," J. Clin. Invest., Vol. 74, pp.104-119, July 1984.
OC	000	SARAIVA et al. "Studies on plasma trasthyretin (prealbumin) in familial amyloidotic polyneuropathy, portuguese type," J. Lab. Clin. Med., Vol. 102, No. 4, Oct. 1983.
	PPP	TAWARA et al. "Amyloid fibril protein in type 1 familial amyloiditic polyneuropathy in Japanese," J. Lab. Clin. Med., Vol. 96, No. 6, Dec. 1981.
	QQQ	JENSSON et al. "The saga of cystatin C gene mutation cousing amyloid angiopathy and brain hemorrhage-clenical genetics in iceland," Clinical Genetics, Vol. 36, pp. 368-377, 1989.
	RRR	WRIGHT et al. "Relationship of amyloid deposits int eh human aorta to aortic atherosclerosis," Laboratory Investigation, Vol. 30, No. 6, p. 767, 1974.
	SSS	PITKANEN et al. "Senile systemic amyloidosis," AJP, Vol. 117, No. 3, Dec. 1984.
	TTT	JOHNSON et al. "Biology of disease," Laboratory Investigation, Vol. 66, no. 5, p. 522, 1992.
	UUU	BUTLER et al. "Immunoreactive calcitonin in amyloid fibrils of medullary carcinoma of the thyriod gland," Arch Pathol Lab Med, Vol. 110, July 1986.
	VVV	BERGER et al. "Calcitonin-like immunoireactivity of amyloid fibrils in medullarry thyroid carcinomas," Virchows archiv a pathol anat histopathol, Vol. 412, pp. 543-551, 1988.
	www	GEJYO et al. "A new form of amyloid protein associated with chronic hemodialysis was identified as β_2 - microglobulin," Biochmical and Biophysical Research Communications, Vol. 129, No. 3, pp. 701-706, June 28, 1985.
	XXX	GEJYO et al. "β ₂ -microglobulin: a mew form of amyloid protein associated with chronic hemodialysis," Kidney International, Vol. 30, pp. 385-390, 1986.

Ex.	Doc#	Description (Author, Title, Date, Pertinent Pages, Etc.)	
OC	YYY	GLENNER et al. "Alzheimer's Disease: initial report of the purification and characterization of a novel cerebrovascular amyloid protein," Biochemical and Biophysical Research Communications, Vol. 120, No. 3, pp. 885-890, May 16, 1984.	
ОС	ZZZ	MASTERS et al. "Amyloid plaque core protein in Alzheimer's Disease and Down Syndrome," Proc. Natl. Acad. Sci. USA Vol. 82, pp. 4245-4249, June 1985.	
α	AAAA	RUMBLE et al. "Amyloid A4 protein and its precursor in down's syndrome and Alzheimer's Disease," The New England Journal of Medicine, Vol. 320, No. 22, June 1, 1989.	

Examiner Cluyshw	DATE CONSIDERED 04/03/03			
EXAMINER: Initial if citation considered, whether or not citation is in conformance with				

MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this document with next communication to applicant.

P03-IDS2.CIT